AMENDMENTS TO THE CLAIMS

Please cancel Claims 18-34 and 37-50 without prejudice, as indicated below.

A complete listing of all claims is presented below:

1. (Original) An information storage process, including:

applying pressure to one or more regions of a substance; and

storing information in said one or more regions by removing said pressure.

2. (Original) A process as claimed in claim 1, wherein said one or more regions provide one or more memory cells for a memory device.

3. (Original) A process as claimed in claim 2, wherein dimensions of each of said memory cells are on a nanometer scale.

4. (Original) A process as claimed in claim 1, including measuring a property of said one or more regions to determine the information stored in said one or more regions.

5. (Original) A process as claimed in claim 4, wherein said property includes conductivity or resistance.

6. (Original) A process as claimed in claim 1, wherein the applying and removing of pressure includes transforming said one or more regions from at least one first phase to at least one second phase.

7. (Original) A process as claimed in claim 6, wherein said at least one first phase includes an amorphous phase, and said at least one second phase includes at least one crystalline phase.

8. (Original) A process as claimed in claim 7, wherein said amorphous phase is a relaxed amorphous phase.

9. (Original) A process as claimed in claim 8, wherein said substance is substantially silicon.

10. (Original) A process as claimed in claim 6, including heating said one or more regions to induce further phase change in said one or more regions.

11. (Original) A process as claimed in claim 10, wherein said heating transforms said at least one crystalline phase to a more conductive crystalline phase.

12. (Original) A process as claimed in claim 1, wherein the applying and removing of pressure includes controlling at least one of the applying and removing of pressure to determine the information stored in said one or more regions.

13. (Original) A process as claimed in claim 1, wherein the step of storing information includes controlling a rate of said removing of said pressure to determine the information stored in said one or more regions.

14. (Original) A process as claimed in claim 1, including selecting the pressure applied to each of said one or more regions to determine the information stored in said one or more regions.

15. (Original) A process as claimed in claim 14, wherein the pressure is selected from a plurality of predetermined pressures to provide multi-bit information storage in each of said one or more regions.

16. (Original) A process as claimed in claim 1, wherein the applying and removing of pressure changes the electrical conductivity of said one or more regions from a first electrical conductivity to a second electrical conductivity, and the process further includes applying pressure to and removing pressure from said one or more regions to change the electrical conductivity of said one or more regions from said second electrical conductivity to a third electrical conductivity.

17. (Original) A process as claimed in claim 16, wherein said third electrical conductivity is substantially equal to said first electrical conductivity.

18.-34. (Cancelled)

35. (Original) A memory device, including a plurality of memory cells created by applying pressure to respective regions of a substance and changing the electrical conductivity of said regions by removing said pressure from said regions to provide said plurality of memory cells.

36. (Original) A memory device as claimed in claim 35, wherein dimensions of said memory cells are on a nanometer scale.

37.-50. (Cancelled)

51. (Original) A structured material, including one or more substantially crystalline regions in a layer of relaxed amorphous silicon.